



**PRODUCT MANUAL
FOR
HAND-OPERATED CHAIN PULLEY BLOCK
ACCORDING TO IS 3832:2005**

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	Product	:	IS 3832:2005
	Title	:	HAND - OPERATED CHAIN PULLEY BLOCK
	No. of Amendments	:	2
2.	Sampling Guidelines:		
a)	Raw material	:	Roller bearing - Cl. 5.5.1, Point hooks - Cl. 5.7.1, Load chain - Cl. 5.8, Hand chain- Cl. 5.10.1 of IS 3832:2005
b)	Grouping guidelines	:	Please refer ANNEX- A
c)	Sample Size	:	1 Unit + 1 hook + 1 chain
3.	List of Test Equipment	:	Please refer ANNEX – B
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – C
5.	Possible tests in a day :		
	(i) Design test (Clause 9.1) (ii) Operational Proof test (Clause 9.2) (iii) Light Load Test (Clause 9.3)		
6.	Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 3832:2005 with the following scope:		
	Name of the product	HAND-OPERATED CHAIN PULLEY BLOCK	
	Mechanism Class	M1/ M2/ M3/ M4	
	Rating in Tonnes		

ANNEX A

Grouping Guidelines

1. IS 3832: 2005 covers Hand-operated Chain Pulley Blocks of the following Classes:
 - a) Mechanism class 1 (M1)
 - b) Mechanism class 2 (M2)
 - c) Mechanism class 3 (M3)
 - d) Mechanism class 4 (M4)
2. Further, each Class of Chain Pulley Block may be of different Ratings (Working load limit).
3. Based on the Ratings, Chain Pulley Blocks are grouped as given below:

Group	Ratings
I	0.5 Tonnes upto and including 3.0 Tonnes
II	Above 3.0 Tonnes upto and including 6.0 Tonnes
III	Above 6.0 Tonnes

4. One sample of Chain Pulley Block of any Rating, from each group for each Mechanism Class shall be tested for all the requirements to cover all the Ratings in that group for that particular Mechanism Class tested.
5. The Firm shall declare the varieties they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.
6. During the operation of the Licence, BO shall ensure that all the varieties covered in the Licence are tested in rotation, to the extent possible.

ANNEX B**List of Test Equipment*****Major test equipment required to test as per the Indian Standard***

Sl. No.	Tests used in with clause reference	Test Equipment
1.	Design test (Cl 9.1)	Tensile Testing Machine with provisions as per IS 3832
2.	Operational proof test (Cl 9.2)	Appropriate loads of desired capacity for testing
3.	Light Load test (Cl 9.3)	Test weights of desired capacity
4.	Endurance type test (Cl 9.4)	Apparatus with impact device, cooling chamber as per requirement, conditioning/humidity chamber
5.	Hooks (Cl 5.7.1)	Proof load testing machine, punches for marking, vernier
6.	Shape and dimensions (Cl 5.7.1)	Round bars, Vernier
7.	Load Chain dimension (Cl 5.8)	Measuring tape of desired length, steel scale
8.	Proof Loading of Load Chain (Cl 5.8)	Proof load testing machine/appropriate loads of desired capacity.
9.	Static tensile strength of Load Chain (Cl 5.8)	Tensile testing machine
10.	Operating Load and Velocity ratio (Cl 8)	Loads of different capacities
11.	Pawls (Cl 5.4)	Rockwell Hardness tester

The above list is indicative only and may not be treated as exhaustive

ANNEX C

Scheme of Inspection And Testing

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipment.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. LABELLING AND MARKING – As per the requirements of IS 3832:2005.

4. LEVELS OF CONTROL - The tests as indicated in column 1 of [Table 1](#) and the levels of control in column 3 of [Table 1](#), shall be carried out on the whole production of the factory which is covered by this scheme and appropriate records and charts maintained in accordance with item 2 above.

4.1 All production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark.

6. REJECTIONS – Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

TABLE 1

(1)				(2)	(3)		
Test Details				Test equipment requirement(R)- Required or (S)-Sub-Contacting permitted	Levels of Control		
Cl.	Requirement	Test Methods			No. of samples	Frequency	Remarks
		Clause	Reference				
5	CONSTRUCTION						
5.3	Load brake	5.3	IS 3832	R	Each unit, as applicable		
5.4	Pawl	5.4	IS 3832	S	One	Each consignment	If the material is accompanied with test certificate, no further testing is required
5.5.1	Roller Bearings		IS 4215 IS 5669 IS 7260 IS 7461(Pt-1) IS 7461(Pt-2) IS 7462(Pt-3)	S	5 bearings	Each Consignment	If the material is accompanied with test certificate, no further testing is required

5.5.2	Plain bearing	5.5.2	IS 3832	S	5 bearings	Each Consignment	If the material is accompanied with test certificate, no further testing is required
5.6	Lubrication	5.6	IS 3832	R	Each block		The block shall be provided with adequate facilities for lubrication unless materials with inherent lubricating properties are used
5.7.1	Hooks						
	Shape & Dimensions	6	IS 15560	R	5 hooks	Every 100 hooks	
	Proof Load Testing	10	IS 15560	S	5 hooks	Every 100 hooks	If the material is accompanied with test certificate, no further testing is required.
	Destruction Test	11	IS 15560	S	1 hook	Once a year	
5.7.2, 5.7.3	Other Fitting	5.7.2 & 5.7.3	IS 3832:2005	R		At the time of type approval	
5.8	Load Chain						
5.8	Dimension	5	IS/ISO 3077	R	3	From every 200 meters chain length or part thereof	If the material is accompanied with test certificate, no further testing is required
	Quality of material	6.1	IS/ISO 3077	S	One	Each consignment	

	Static tensile test	7.2.2	IS/ISO 3077	S	One	From every 200 meters chain length or part thereof	
	Bend deflection	7.3	IS/ISO 3077	S	One	From every 200 meters chain length or part thereof	
	Hardness test	7.4	IS/ISO 3077	S	As per ISO 1834		
	Case depth determination	7.5	IS/ ISO 3077	S	Three sample from initial production		If the material is accompanied with test certificate, no further testing is required
5.10	Hand Chains						
5.10.1	Material Welding & finish	4.1	IS 2429(Pt-1)	S	3	From every 200 meters chain length or part thereof	If the material is accompanied by test certificate, no further testing is required
5.10.2	Link Dimension	5.10.2	IS 3832	R	3	From every 200 meters chain length or part thereof	
8	Operating effort and velocity ratio	8	IS 3832:2005	R	1	From 100 completed blocks of each size	

9	TESTS					
9.1	Design test	9.1	IS 3832:2005	R		The test to be carried out at the time of initial approval of the design. The same shall be repeated whenever there is any change in the design of the chain pulley block.
9.2	Operational proof test	9.2	IS 3832:2005	R	Each Completed unit	
9.3	Light Load Test	9.3	IS 3832:2005	R	Each Completed unit	
9.4	Endurance Type Test	9.4	IS 3832:2005	S		This is proto type test and is be carried out at the time of initial approval for each Type/Class/Grade from same source and shall be repeated if there is a design change.

Note-1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: The control unit and levels of control as decided by the Bureau are obligatory, to which the licensee shall comply with.